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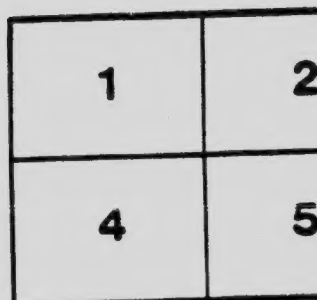
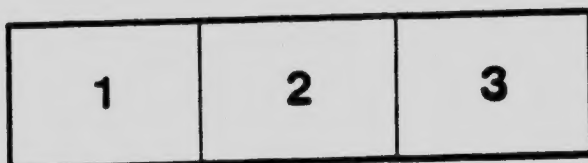
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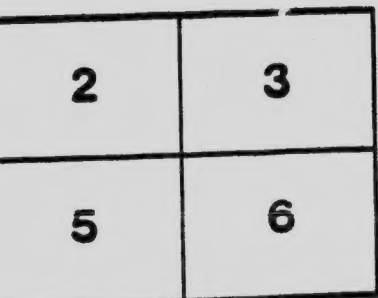
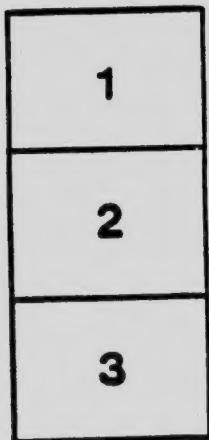
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PAMPHLET No. 26.

DOMINION OF CANADA.

EXPERIMENTAL FARMS.

J. H. GRISDALE, B.Agr., D.Sc.A.,
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W. T. MACOUN,
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MELON CULTURE

By W. T. MACOUN, *Dominion Horticulturist.*

Both muskmelons and watermelons are very popular in Canada, but in some parts of the country, owing to the short season, special methods of culture must be adopted to have them ripen during the warm weather, when they are most in demand.

More attention has been given to the culture of muskmelons in Canada than to watermelons, although the latter are grown extensively in the warmer districts. The name cantaloupe is now applied to all muskmelons alike by some people, but the true cantaloupes are muskmelons of the type of the rough hard-skinned melons grown in Southern Europe and the Southern States but seldom met with in Canada. Being a native of Persia and other parts of Asia, where there is great heat in the growing season, the muskmelon to do well must be kept in a high temperature from the time the seed is sown until the melons are ripe. If the seeds are sown in cold soil they are likely to rot. If the young plants are not well protected when started early in the hot-bed they will be chilled and checked in their growth or killed, and if there are cool nights and the plants are exposed when they are in bloom, melons will not set. Furthermore, the slightest frost will kill the vines. Having these facts in mind, one can intelligently begin the culture of melons.

As the early melons are the most profitable the methods of obtaining these are described before giving general directions for growing them in the open. The melon growers in the vicinity of Montreal have given more attention to the production of large, high class early melons than anywhere else in Canada and as the excellent results which they have obtained show what can be done where the season is comparatively short, as it is over a large part of Canada, the first system of culture recommended is based largely on their methods.

The seed is sown in a greenhouse or hotbeds during the month of March or first days of April, either in pots or in rows about six inches apart and about half an inch deep in the soil. As soon as the plants appear above ground, ventilation is given the beds during the daytime, but they are closed at night. As soon as the plants begin to show the first rough leaf, they are pricked out into four-inch pots, or sometimes five-inch pots are used, setting two plants in the pot. At times it is desirable to transplant from a four-inch pot to a five- or six- inch pot if the plants have been started very early. Plants may also be started in pieces of sod or strawberry boxes. A piece of sod about four inches square is a satisfactory size, three or four seeds being planted in each piece. These sods are sunk in the soil in the hotbeds.

Some growers prefer sowing the seed in the frame where the vine is to remain. Warm, well-drained soil should be chosen for the melon plantation, as it is important to have as high a soil temperature as possible after the heat of the manure has been expended. The soil for melons is preferably rather light, but having a good supply of available plant food in it from a liberal application of barnyard manure which has been ploughed under. Trenches are opened in this soil two to two and a half feet in width and eighteen inches in depth, early in May, or the work may be done the previous autumn when, the soil, being exposed to the frost during the winter, becomes broken up. These trenches are dug in rows about twelve feet apart and as long as space will allow. Into these trenches is put actively fermenting horse manure, filling

them up to within four inches of the surface of the ground. The soil is now thrown back on top of the manure making the surface in the centre of the trench a little higher to provide for settling. There should at the same time be a slight slope towards the south. There should be about eight or nine inches of soil, or at least six inches, over the manure. Movable frames are used for putting over the trench. The usual length of each frame is about twelve feet. They are six feet wide and planned to take four hotbed sash each 6 by 3 feet. A path of about four feet is left at each end of the frames for working about them. After the glass has been over the trench for a day or two, the soil will be warm enough to take the seed or young plants, and it is at this time that the utmost care should be taken to prevent the plants getting chilled and a warm day should be chosen for transplanting. As the young melon plants have not a large root system and have few fibres to hold the soil to them, it should be disturbed as little as possible. It is desirable to water well before turning the plants out of the pots or boxes. Three hills of two, or at the most three, plants to a hill are now made about four feet apart in the frames, pressing the surrounding soil well about the plants, but at the same time not breaking the ball of soil attached to the roots. If in strawberry boxes, there may be four plants to the box when setting out. These all should be left until the plants are established when the weakest plant should be cut off. The plants should now be shaded to help prevent their wilting. The frames should be protected early in the season at night with matting or boards to keep the bed as warm as possible. From now on the chief attention should be given to ventilating and watering. On cold days very little ventilation can be given for fear of chilling the plants, but as the season advances and the weather becomes warmer more and more ventilation is given. Only practice can give the grower the knowledge of how and when to ventilate to get the best results. Usually ventilation is given in the morning and the frames closed at night. Water should be applied when needed, in a fine spray, the chill being taken off it before using. From time to time it may be found desirable to syringe the leaves thoroughly with a good force of water to clean off red spider. The surface soil should be kept loose and free of weeds. Cultivation should be shallow.

The pinching back or pruning of the vines is practised by the best growers. Pinching is given when the plants are transplanted from the pots to the frame, the tip of the central shoot being removed. After the vines have made about one and a half or two feet of growth the shoots are again pinched off. This encourages the production of laterals and makes it easier to distribute the vines in the frame. The laterals also bear melons and thus the largest possible number of melons are produced in the smallest space. As the melons set, the ends of the laterals on which they are growing are pinched off to about two nodes or joints beyond the melon. This method also economizes space. Melons set well even when the vines are not pruned. If the vines have been started early they flower, melons set, reach a good size, and are often nearly mature before the frames are removed. After the vines have filled the frames, the latter are raised a little off the ground to allow the vines to extend outside. When there is no further danger of cool nights the sash are left off but the frames are often left on for a few days in case there should be an unexpected cool spell before the plants become hardened, when the glass can be put back temporarily. While muskmelons require high temperature to do well, they should at the same time have plenty of water. In their native country the melons are grown near streams where there is abundant moisture. Where the land is naturally wet in Canada it is usually too cold for melons, hence they are grown on the warm, well drained soils which often become dry in the summer and the successful melon grower is prepared to irrigate when necessary.

When one does not wish to go to the expense of using hotbed sash for forcing the melons they can be advanced considerably by using small lights about a foot square. A frame is made of pieces of twelve-inch boards and the glass is laid on top, or it may

be made to slide in a groove so as to ventilate readily. Holes are dug about eighteen inches deep and two feet square and nearly filled with manure as already described. Over these are put the small frames, sinking them six inches in the soil and manure so that they will afford greater protection to the plants. Seed or plants may be put in these. They are left over the plants as long as possible, but, as they have to be removed comparatively early in the season, cool nights afterward may injure the crop.

In the warmest parts of Canada, where the season is longest, the general practice is to grow muskmelons in the open, either without starting them in the greenhouse or hotbed or else merely starting the plants inside and planting them in the open when quite small. Grown in this way, they require as warm, well drained soil as when forced. If the soil has been well manured no special preparation is made where the seed is sown, but as a rule a liberal quantity of manure is mixed with the soil. A hole is made about eight inches deep and about two feet square into which is thrown about half a bushel of compost made of short manure thoroughly mixed with the soil in the hole. The manure should be short, as if long, it will dry out more readily. There should be enough of this compost to make it about level with the surface of the ground. Over this is put about two inches of good loamy soil which raises the hill that much above the surrounding level. The hills are made from six to seven feet apart. A dozen or more of seeds are now planted about the centre of each hill, pressing them in with the finger, to about the depth of one inch, after which the soil is pressed down with the hand to firm it and to aid in bringing the moisture to the seed. A few days after the seed is sown, and just as or before the plants break through the ground, poisoned bran in the proportion of one pound Paris green to fifty pounds bran should be sprinkled over the hill. This is to kill the cutworms, which are very destructive to plants. When danger of cutworms is over, the plants should be thinned out, leaving only the three strongest. The ground is now kept thoroughly cultivated to conserve moisture and to destroy weeds. The vines may be moved from time to time when young to start them in the direction which will cover the ground best with the least crowding. When the vines are crowded the melons do not set well. To obtain the most uniform and best melons, pieces of boards or stones should be placed under each to keep it off the ground. The melons should also be turned gradually, not exposing a part which has been underneath at once to the sun, but turning part way at a time.

Muskmelons are ripe when they break easily from the vine. When shipping them long distances, growers sometimes pick them a day or two before they have reached this stage, but unless one has had considerable experience it is best to leave them until they are ripe, as if picked much too soon they will not mature properly.

Varieties.—Two of the earliest and best muskmelons of fairly large size having green, tender flesh with more or less netting on the skin, are Long Island Beauty and Hackensack. The Montreal melon, Montreal Improved Nutmeg, or Montreal Market, is of this type, but is larger and later, though when grown under hot-beds is sufficiently early. It is remarkable for its size and great thickness of flesh, and some specimens are very high in quality. Three of the best of the smaller salmon-fleshed or yellow-fleshed varieties are Emerald Gem, Hoodoo, and Paul Rose. These are very high in flavour.

Watermelons.—The watermelon is a native of Africa, hence it also requires great heat to grow it well. As watermelons are obtained from the United States early in the season at comparatively low prices, there is not the same inducement to force them in Canada, though they can be forced if desired. For field culture about the same methods are adopted as for muskmelons. The hills for watermelons should be farther apart than for muskmelons, from seven to nine feet being a fair distance. It is much more difficult to tell when a watermelon is ripe than it is a muskmelon; in fact, there is no satisfactory method for telling, though after one has harvested many melons one

can get fairly expert. Some indications of ripeness are the cracking of the flesh under slight pressure, the drying up of the tendril nearest the melon, a clear sound when the melon is thumped as opposed to a dull sound when green. These indications, which are by no means accurate, together with the general appearance of the melon, help to decide on what melons to harvest.

As watermelons are usually not grown in it-beds as are the muskmelons, it is important to grow the earliest varieties so as to have a large proportion of the crop ripen. Three of the most reliable are Cole Early, Phinney Early, and Peerless, or Ice Cream. The last is the best in quality.

Diseases.—There are several diseases which affect muskmelons, among these being the mildew or blight, the alternaria, and the bacterial wilt. The two former can be checked by thorough application of Bordeaux mixture beginning early in July while the plants are still healthy looking, and continuing at intervals of from ten days to two weeks throughout the season. There is no good remedy known for the wilt.

Muskmelons in greenhouses.—While muskmelons are grown only to a very limited extent in greenhouses in America this has long been a popular method in Great Britain and special varieties have been developed there for this purpose. There is, however, an increasing number of growers devoting their attention to this crop in this country, melons being grown during the early part of summer before the outside crop is ready. Seed is sown early in March in small pots and transplanted direct to the beds in about a month afterwards, or they may be transplanted from the original three-inch to six-inch pots, if one is not ready to plant. Melons must not be checked in their growth, especially while in pots. They need rich soil for best results and one that has an abundance of humus in it, hence it should contain a liberal proportion of well-rotted manure.

If benches are used where there is only room for one row, the plants may be set about eighteen inches apart. In wide beds or benches, rows should be about three feet apart with the plants eighteen inches to two feet apart in the rows. Better success is usually obtained by having the plants fairly close as described with about three melons per plant, than by putting them at wider distances and trying to get more melons. The plants are kept growing vigorously by keeping the greenhouse warm though well ventilated, and the soil and air moist. The surface of the soil should be kept well cultivated. A temperature of from 75° to 95° F. in the daytime, and from 65° to 70° F. at night makes a good range. The vines should be supported on a trellis so that the laterals can be well distributed, and care in tying is necessary so that the stems will not be cut. One stem is taken to the top of the trellis and then pinched off at the top. Laterals on which the female or pistillate flowers appear will be thrown out. It is desirable to have pistillate flowers on as many laterals as possible ready for pollinating at the same time, as if one fruit gets ahead of the others the latter do not usually do well. The flowers must be hand-pollinated to ensure a good setting of fruit. There are two kinds of flowers borne on the plant, the staminate, the first to appear, which bears pollen but never sets fruit, and the pistillate which may be readily distinguished by the swelling, or undeveloped melon, at the base. These usually appear on the laterals. The pollen is taken from the staminate flowers and applied to the stigma of the pistillate. When melons begin to swell after pollination has taken place, the tips of the laterals are pinched off one joint beyond the melon.

The Montreal melon succeeds very well under glass, and is one of the best varieties for this purpose. Early Hackensack is also good. Netted Gem, or Rocky Ford, is a small melon which yields well. Emerald Gem and Paul Rose are also good small ones. One of the English varieties which has succeeded better than some others is the Blenheim Orange. Sutton Superlative is also good.



